

IN THE CLAIMS:

1. (Canceled) An operation microscope having a microscope body including an optical eyepiece system for stereoscopically observing an operative portion of a surgical operation, said microscope comprising:

a microscope image observer for observing an observation image formed for stereoscopic observation by the microscope body;

a plurality of image forming sections for forming images other than the observation image of said microscope image observer;

an image display for selectively displaying the respective images of said plurality of image forming sections in said microscope image observer;

a display driver for controlling display states of the plurality of images formed by said plurality of image forming sections independently of one another; and

a controller for controlling an operation of the display driver.

2. (Canceled) The operation microscope according to claim 1, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

3. (Canceled) The operation microscope according to claim 2, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the

observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

4. (Canceled) The operation microscope according to claim 2, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

5. (Canceled) The operation microscope according to claim 2, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

6. (Canceled) The operation microscope according to claim 1, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

7. (Canceled) The operation microscope according to claim 1, wherein said display driver comprises:

an image selector for selecting respective display images of said plurality of image forming sections;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

8. (Canceled) The operation microscope according to claim 7, wherein said operation input section comprises:

detection means for detecting an image source state of said plurality of image forming sections; and

an automatic controller for automatically controlling at least one of said display controller and said image selector based on a detection result of the detection means.

9. (Canceled) The operation microscope according to claim 1, wherein said plurality of image forming sections comprise:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

10. (Canceled) The operation microscope according to claim 5, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an XY direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said plurality of image forming sections; and

a display selection switch for selecting said image display.

11. (Canceled) The operation microscope according to claim 7, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

12. (Canceled) The operation microscope according to claim 3, wherein said microscope is connected to an external operation input section disposed outside an operating theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

13. (Canceled) The operation microscope according to claim 7, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

14. (Canceled) The operation microscope according to claim 4, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

15. (Canceled) The operation microscope according to claim 2, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

said image display changes a display mode of a plurality of display images of said in-field display in accordance with a state of said holder fixing section.

16. (Canceled) The operation microscope according to claim 2, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of a plurality of display images of said in-field display in accordance with the state.

17. (Canceled) The operation microscope according to claim 6, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

18. (Canceled) The operation microscope according to claim 17, wherein said display driver comprises a display for displaying an identification mark in the image to which the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

19. (Canceled) The operation microscope according to claim 6, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

20. (Canceled) The operation microscope according to claim 2, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

21. (Canceled) The operation microscope according to claim 20, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

22. (Canceled) The operation microscope according to claim 20, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

23. (Canceled) The operation microscope according to claim 9, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

24. (Canceled) The operation microscope according to claim 23, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

25. (Canceled) The operation microscope according to claim 2, wherein said out-of-field display is disconnectably connected to said microscope body.

26. (New) An operation microscope having a microscope body including an optical eyepiece system for stereoscopically observing an operative portion of a surgical operation, said microscope comprising:

a microscope image observer for observing an observation image formed for stereoscopic observation by the microscope body;

at least one image forming section for forming images other than the observation image of said microscope image observer;

an image display for displaying a desired one of the images formed by said at least one image forming section in said microscope image observer;

a detector for detecting a state of an image source of said image display; and

a display-state changer for automatically changing a display state of the image displayed by said image display, on the basis of the detected state of the image source.

27. (New) The operation microscope according to claim 26, wherein said display-state changer comprises an image selector for selecting at least one of the images formed by said at least one image forming section.

28. (New) The operation microscope according to claim 26, wherein said display-state changer comprises an ON/OFF switcher for turning on/off said image display.

29. (New) The operation microscope according to claim 26, wherein said display-state changer comprises a display-mode switcher for switching a display mode of the image displayed by said image display.

30. (New) The operation microscope according to claim 26, wherein said display-state changer comprises an image processor for processing the display state of the image displayed by said image display.

31. (New) An operation microscope having a microscope body including an optical eyepiece system for stereoscopically observing an operative portion of a surgical operation, said microscope comprising:

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a microscope image observer for observing an observation image formed for stereoscopic observation by the microscope body;

at least one image forming section for forming images other than the observation image of said microscope image observer;

an image display for displaying a desired one of the images formed by said at least one image forming section in said microscope image observer;

a detector for detecting a state of an image source which is displayed by said image display;

a switch for controlling an operation of said operation microscope; and

a switch-function provider for providing at least one function of said switch for the image source on the basis of the state of the image source which is displayed by said image display.

32. (New) An operation microscope having a microscope body including an optical eyepiece system for stereoscopically observing an operative portion of a surgical operation, said microscope comprising:

a microscope image observer for observing an observation image formed for stereoscopic observation by the microscope body;

at least one image forming section for forming images other than the observation image of said microscope image observer;

an image display for displaying a desired one of the images formed by said at least one image forming section in said microscope image observer; and

a data transferring section for making said image display a command from an operation inputting section, the operation inputting section being located outside an operating room, and connected to said operation microscope.

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33. (New) The operation microscope according to claim 27, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

34. (New) The operation microscope according to claim 33, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

35. (New) The operation microscope according to claim 33, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

36. (New) The operation microscope according to claim 33, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

37. (New) The operation microscope according to claim 27, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

38. (New) The operation microscope according to claim 27, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

39. (New) The operation microscope according to claim 27, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

40. (New) The operation microscope according to claim 36, wherein said display driver comprises an XY driver for driving said small screen display in an XY

direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

41. (New) The operation microscope according to claim 38, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

42. (New) The operation microscope according to claim 34, wherein said microscope is connected to an external operation input section disposed outside an operating theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

43. (New) The operation microscope according to claim 38, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

44. (New) The operation microscope according to claim 35, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

45. (New) The operation microscope according to claim 33, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released; and

said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

46. (New) The operation microscope according to claim 33, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

47. (New) The operation microscope according to claim 37, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

48. (New) The operation microscope according to claim 47, wherein said display driver comprises a display for displaying an identification mark in the image to which the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

49. (New) The operation microscope according to claim 37, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

50. (New) The operation microscope according to claim 33, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

51. (New) The operation microscope according to claim 50, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

52. (New) The operation microscope according to claim 50, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

53. (New) The operation microscope according to claim 39, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

54. (New) The operation microscope according to claim 53, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

55. (New) The operation microscope according to claim 33, wherein said out-of-field display is disconnectably connected to said microscope body.

56. (New) The operation microscope according to claim 28, wherein said image display comprises;

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

57. (New) The operation microscope according to claim 56, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

58. (New) The operation microscope according to claim 56, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

59. (New) The operation microscope according to claim 56, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

60. (New) The operation microscope according to claim 28, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

61. (New) The operation microscope according to claim 28, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

62. (New) The operation microscope according to claim 28, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus

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including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

63. (New) The operation microscope according to claim 59, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

64. (New) The operation microscope according to claim 61, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

65. (New) The operation microscope according to claim 62, wherein said microscope is connected to an external operation input section disposed outside an operating theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

66. (New) The operation microscope according to claim 61, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

67. (New) The operation microscope according to claim 58, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

68. (New) The operation microscope according to claim 56, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

69. (New) The operation microscope according to claim 56, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

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said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

70. (New) The operation microscope according to claim 60, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

71. (New) The operation microscope according to claim 70, wherein said display driver comprises a display for displaying an identification mark in the image to which the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

72. (New) The operation microscope according to claim 60, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

73. (New) The operation microscope according to claim 56, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

74. (New) The operation microscope according to claim 73, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

75. (New) The operation microscope according to claim 73, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

76. (New) The operation microscope according to claim 62, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

77. (New) The operation microscope according to claim 76, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

78. (New) The operation microscope according to claim 56, wherein said out-of-field display is disconnectably connected to said microscope body.

79. (New) The operation microscope according to claim 29, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

80. (New) The operation microscope according to claim 79, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

81. (New) The operation microscope according to claim 79, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

82. (New) The operation microscope according to claim 79, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

83. (New) The operation microscope according to claim 29, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

84. (New) The operation microscope according to claim 29, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

85. (New) The operation microscope according to claim 29, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

86. (New) The operation microscope according to claim 82, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

87. (New) The operation microscope according to claim 84, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

88. (New) The operation microscope according to claim 80, wherein said microscope is connected to an external operation input section disposed outside an operating theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

89. (New) The operation microscope according to claim 84, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

90. (New) The operation microscope according to claim 81, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

91. (New) The operation microscope according to claim 79, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

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92. (New) The operation microscope according to claim 79, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

93. (New) The operation microscope according to claim 83, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

94. (New) The operation microscope according to claim 93, wherein said display driver comprises a display for displaying an identification mark in the image to which

the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

95. (New) The operation microscope according to claim 83, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

96. (New) The operation microscope according to claim 79, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

97. (New) The operation microscope according to claim 96, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

98. (New) The operation microscope according to claim 96, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

99. (New) The operation microscope according to claim 85, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

100. (New) The operation microscope according to claim 99, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

101. (New) The operation microscope according to claim 79, wherein said out-of-field display is disconnectably connected to said microscope body.

102. (New) The operation microscope according to claim 28, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

103. (New) The operation microscope according to claim 102, wherein said in-field display is formed by a small screen display, formed by cutting part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

104. (New) The operation microscope according to claim 102, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

105. (New) The operation microscope according to claim 102, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

106. (New) The operation microscope according to claim 30, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

107. (New) The operation microscope according to claim 30, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

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(cont.)

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

108. (New) The operation microscope according to claim 30, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

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a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

109. (New) The operation microscope according to claim 105, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

110. (New) The operation microscope according to claim 107, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

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cont.
111. (New) The operation microscope according to claim 103, wherein said microscope is connected to an external operation input section disposed outside an operating theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

112. (New) The operation microscope according to claim 107, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

113. (New) The operation microscope according to claim 104, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

114. (New) The operation microscope according to claim 102, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

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a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

115. (New) The operation microscope according to claim 102, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

116. (New) The operation microscope according to claim 106, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

117. (New) The operation microscope according to claim 116, wherein said display driver comprises a display for displaying an identification mark in the image to which the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

118. (New) The operation microscope according to claim 106, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

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said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

119. (New) The operation microscope according to claim 102, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

120. (New) The operation microscope according to claim 119, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

121. (New) The operation microscope according to claim 119, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

122. (New) The operation microscope according to claim 108, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

123. (New) The operation microscope according to claim 122, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

124. (New) The operation microscope according to claim 102, wherein said out-of-field display is disconnectably connected to said microscope body.

125. (New) The operation microscope according to claim 31, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

126. (New) The operation microscope according to claim 125, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

127. (New) The operation microscope according to claim 125, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

128. (New) The operation microscope according to claim 125, wherein said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

129. (New) The operation microscope according to claim 31, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

130. (New) The operation microscope according to claim 31, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

131. (New) The operation microscope according to claim 130, wherein said operation input section comprises:

detection means for detecting an image source state of said image forming sections; and

an automatic controller for automatically controlling at least one of said display controller and said image selector based on a detection result of the detection means.

132. (New) The operation microscope according to claim 31, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

133. (New) The operation microscope according to claim 128, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope image observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

134. (New) The operation microscope according to claim 130, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

135. (New) The operation microscope according to claim 126, wherein said microscope is connected to an external operation input section disposed outside an operating

theater, and comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

136. (New) The operation microscope according to claim 130, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

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137. (New) The operation microscope according to claim 127, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

138. (New) The operation microscope according to claim 125, wherein said microscope comprises:

a holder for movably supporting said microscope body; and

a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

139. (New) The operation microscope according to claim 125, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

140. (New) The operation microscope according to claim 129, wherein said switch is provided with a foot, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

141. (New) The operation microscope according to claim 140, wherein said display driver comprises a display for displaying an identification mark in the image to which the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

142. (New) The operation microscope according to claim 129, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

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143. (New) The operation microscope according to claim 125, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

144. (New) The operation microscope according to claim 143, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

145. (New) The operation microscope according to claim 143, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

146. (New) The operation microscope according to claim 132, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

147. (New) The operation microscope according to claim 146, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

148. (New) The operation microscope according to claim 125, wherein said out-of-field display is disconnectably connected to said microscope body.

149. (New) The operation microscope according to claim 32, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer; and

an out-of-field display for displaying the image of said image forming section other than the image of said in-field display outside the field of the observation image of said microscope image observer.

150. (New) The operation microscope according to claim 149, wherein said in-field display is formed by a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part.

151. (New) The operation microscope according to claim 149, wherein said in-field display is formed by an image superimposing section for superimposing and displaying the image other than said observation image in the field of the observation image of said microscope image observer.

152. (New) The operation microscope according to claim 149, wherein said in-field display comprises:

a small screen display formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the display image of said small screen display in the field of the observation image of said microscope image observer.

153. (New) The operation microscope according to claim 32, wherein said image display comprises:

an in-field display for displaying the image of any one of said image forming sections in a field of the observation image of said microscope image observer, and

said in-field display comprises:

a small screen display, formed by cutting a part of the field of the observation image of said microscope image observer, for displaying another image formed by said image forming section in the cut part; and

an image superimposing section for superimposing and displaying the image other than said observation image and the image of said small screen display in the field of the observation image of said microscope image observer.

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154. (New) The operation microscope according to claim 32, wherein said display driver comprises:

an image selector for selecting respective display images of said image forming section;

a display controller for displaying the image selected by said image selector in said corresponding image display; and

an operation input section for operating said display controller and the image selector.

155. (New) The operation microscope according to claim 154, wherein said operation input section comprises:

detection means for detecting an image source state of said image forming sections; and

an automatic controller for automatically controlling at least one of said display controller and said image selector based on a detection result of the detection means.

156. (New) The operation microscope according to claim 32, wherein said image forming section comprises:

an endoscope image forming section for forming the observation image by an endoscope;

a navigation image forming section, provided with a diagnosis image memory apparatus incorporated therein, for forming a navigation image by a navigation apparatus including correlation processing means for calculating a correlation between the diagnosis image and the observation image of said microscope image observer;

an image data forming section for forming character data and various image data such as an arrow; and

an operation information data forming section for forming operation information data for displaying operation information of said operator.

157. (New) The operation microscope according to claim 152, wherein said display driver comprises an XY driver for driving said small screen display in an XY direction in XY coordinates crossing at right angles to each other in the field of the observation image of said microscope observer, and

said controller comprises:

an xy direction operation switch for operating said XY driver in said XY direction;

an image selection switch for selecting the respective images of said image forming section; and

a display selection switch for selecting said image display.

158. (New) The operation microscope according to claim 154, wherein said image forming section comprises a nerve monitor for inspecting a function of a cranial nerve, and displaying an inspection result with a waveform, and

said image selector comprises waveform monitor means of said nerve monitor, and changes a display state of said nerve monitor in accordance with a state of the waveform monitor means.

159. (New) The operation microscope according to claim 150, wherein said microscope comprises a data transmitter for displaying an instruction from said external operation input section in said small screen display.

160. (New) The operation microscope according to claim 154, wherein said image forming section comprises a menu image forming section for forming a menu image by which an image to be displayed in said image display is selected, and

said image selector comprises a selection section of a menu display position for selecting a display place of said menu image in accordance with the display state of the image displayed in said image display.

161. (New) The operation microscope according to claim 151, wherein said microscope comprises a TV camera for picking up the observation image of said microscope image observer,

an image pickup range of said TV camera is set to be smaller than an image superimposing range of said image superimposing range of said image superimposing section, and

said display driver superimposes information necessary after the surgical operation in said camera image pickup range, and displays information necessary only during the surgical operation outside said camera image pickup range.

162. (New) The operation microscope according to claim 149, wherein said microscope comprises:

a holder for movably supporting said microscope body; and a holder fixing section for fixing a moving position of the holder in such a manner that the moving position can be fixed or released, and

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said image display changes a display mode of a display image of said in-field display in accordance with a state of said holder fixing section.

163. (New) The operation microscope according to claim 149, wherein said image forming section comprises an ultrasonic observation image forming section for forming an image indicating an observation result of an ultrasonic observation apparatus, and

said image selector detects an observation/non-observation state of said ultrasonic observation apparatus, and changes a display mode of display image of said in-field display in accordance with the state.

164. (New) The operation microscope according to claim 153, wherein said microscope comprises a foot switch for controlling an operation, and

said display driver allots a function of said foot switch to image source control in accordance with an image source selected by said in-field display.

165. (New) The operation microscope according to claim 164, wherein said display driver comprises a display for displaying an identification mark in the image to which

the function of said foot switch is allotted in accordance with the image source selected by said in-field display.

166. (New) The operation microscope according to claim 153, wherein said microscope body comprises an endoscope holding hook for holding an endoscope so that the endoscope is attachable or detachable, and

said display driver detects whether or not said endoscope is held by said endoscope holding hook and controls said image display.

167. (New) The operation microscope according to claim 149, wherein said image forming section comprises a scale display for calculating an image scale of said endoscope and displaying the image scale in said in-field display.

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168. (New) The operation microscope according to claim 167, wherein said scale display calculates a scale of the observation image of said microscope image observer and overlays and displays the scale in the observation image of said microscope image observer.

169. (New) The operation microscope according to claim 167, wherein said scale display comprises a stereoscopic index display for displaying a stereoscopic index in said in-field display.

170. (New) The operation microscope according to claim 156, wherein said image forming section displays an image of an ultrasonic probe and said navigation image in said image display with a progress of the surgical operation when said ultrasonic probe is used.

171. (New) The operation microscope according to claim 170, wherein said ultrasonic probe changes an image display direction in accordance with an insertion direction of the ultrasonic probe of a front scan.

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172. (New) The operation microscope according to claim 149, wherein said out-of-field display is disconnectably connected to said microscope body.

IN THE ABSTRACT:

Please amend the Abstract as follows:

There is disclosed an operation microscope in which an observing and displaying system ~~means~~ of an operating instrument are selected, and an endoscope image for observing a dead angle of the microscope and a navigation image are selectively displayed in a microscope observation field, so that a tomographic image, three-dimensionally constructed image, and the like can be selectively displayed in a display screen in accordance with a treatment position displayed in a monitor or an observation position of the operation microscope.